

Curso por María Medina, Escuela JAE 2021.

Título:

Non local operators: behavior and basic properties.

Abstract:

In these lectures we will introduce the basic theory of non local operators by means of the so called fractional Laplacian, main example of the family. We will see its equivalent definitions, some motivations arising from probability and its relation with the classical Laplacian. We will also analyze how classical results (as the mean value property or the maximum principle) are understood in this framework. We will finally introduce the fractional Sobolev spaces, the natural setting where one looks for solutions of problems driven by this operator.